

# KIC 001866252

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001866252-01	OBS	No	0.700486	132.163682	22.4	1.628	11.1	8.4	1.23	6102	0.68	7650.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001866252-01	OBS	FP	0.00	1	0	1	0	LPP_ALT—CENT_RESOLVED_OFFSET

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

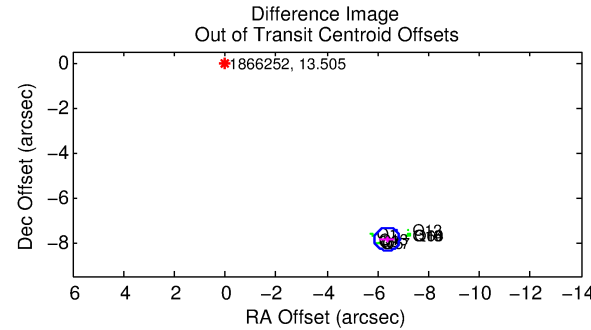
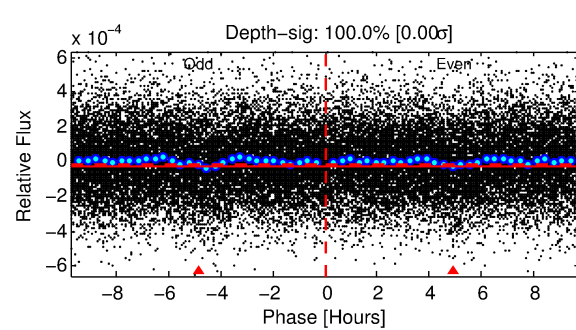
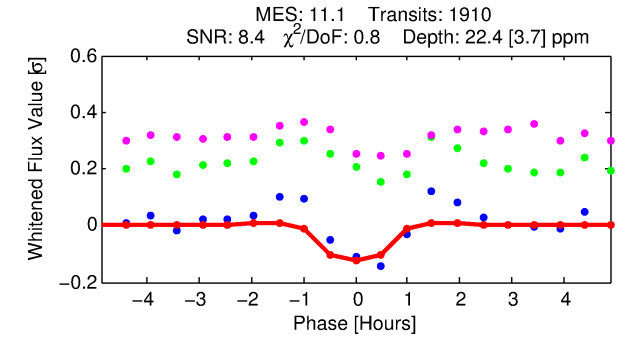
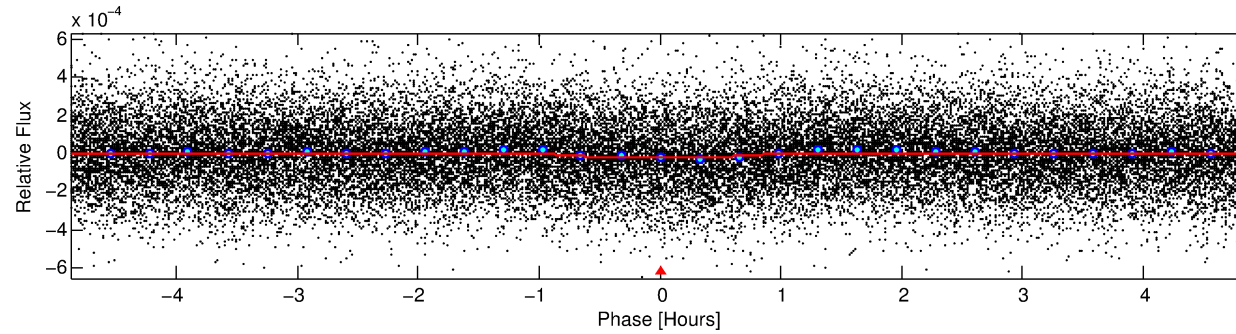
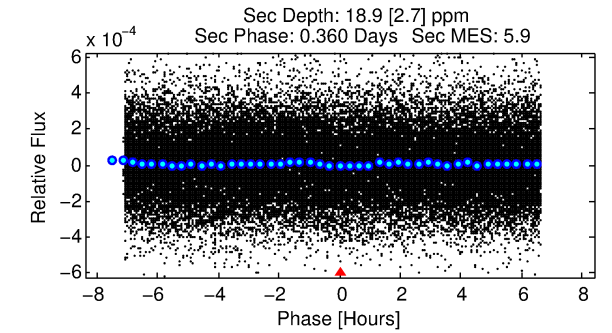
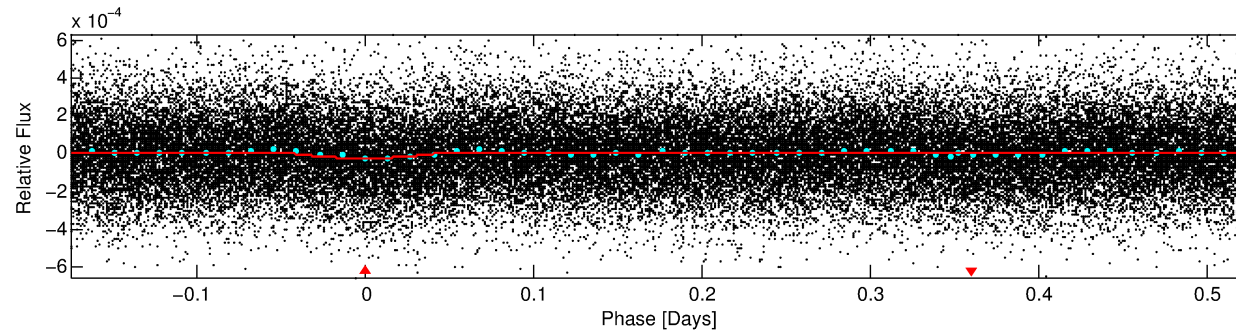
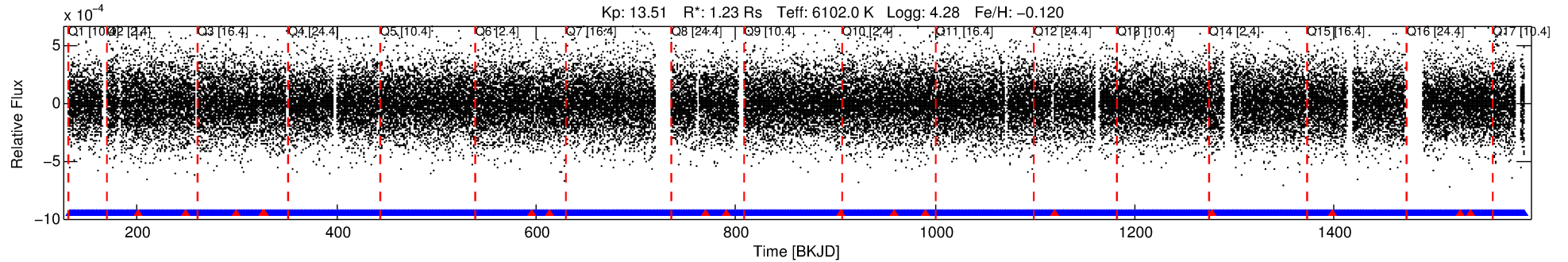
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 001866252-01

No Significant Match Found

# DV One-Page Summary

KIC: 1866252 Candidate: 1 of 1 Period: 0.700 d



## DV Fit Results:

Period = 0.70049 [0.00001] d  
Epoch = 132.1637 [0.0028] BKJD  
Rp/R\* = 0.0051 [0.0016]  
a/R\* = 1.74 [1.92]  
b = 0.90 [0.35]  
Seff = 7650.23 [2963.15]  
Teq = 2385 [231] K  
Rp = 0.68 [0.30] Re  
a = 0.0156 [0.0039] AU  
Ag = 5.44 [4.05] [1.10σ]  
Teff = 5631 [933] K [3.38σ]

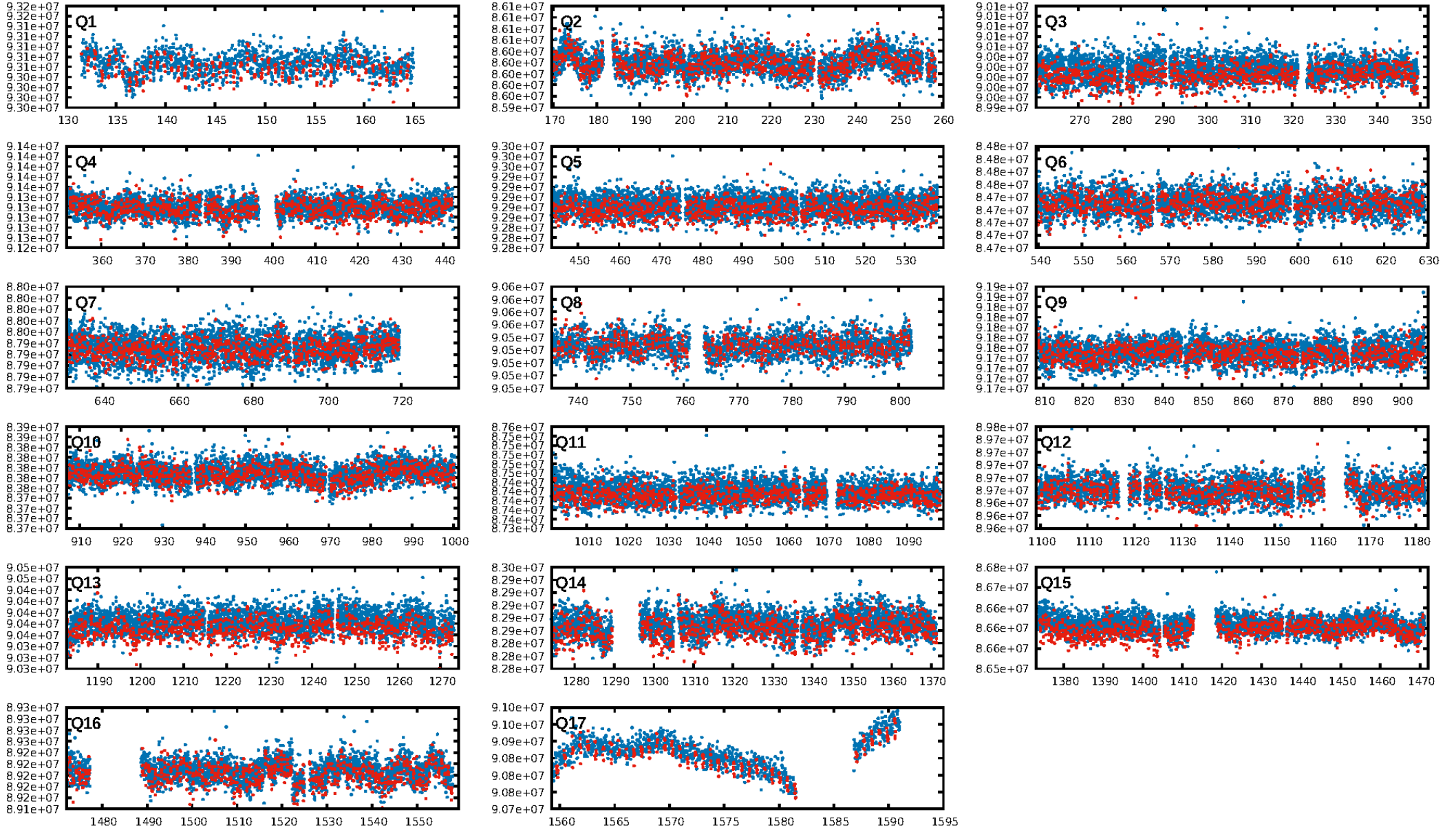
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 1.56e-27  
RollingBand-fgt: 0.99 [1808/1825]  
**GhostDiagnostic-chr: -0.3705**  
Centroid-sig: 0.0%  
Centroid-so: 14.250 arcsec [8.45σ]  
OotOffset-rm: 10.109 arcsec [59.90σ]  
KicOffset-rm: 10.166 arcsec [63.09σ]  
OotOffset-st: 3/0/2/5 [10]  
KicOffset-st: 3/0/2/5 [10]  
DiffImageQuality-fgm: 0.70 [7/10]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:24:24 Z

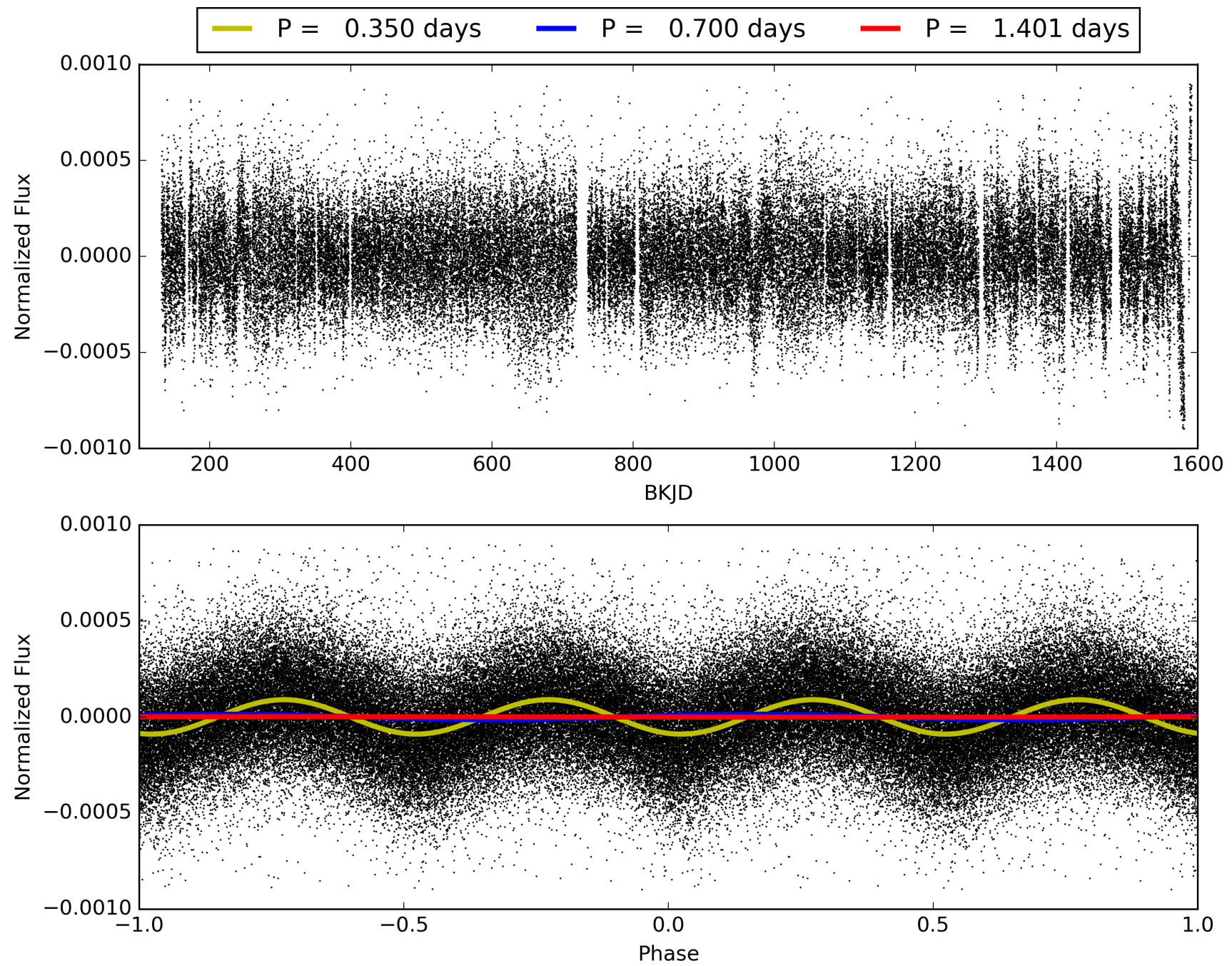
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 001866252-01, PDC Light Curves



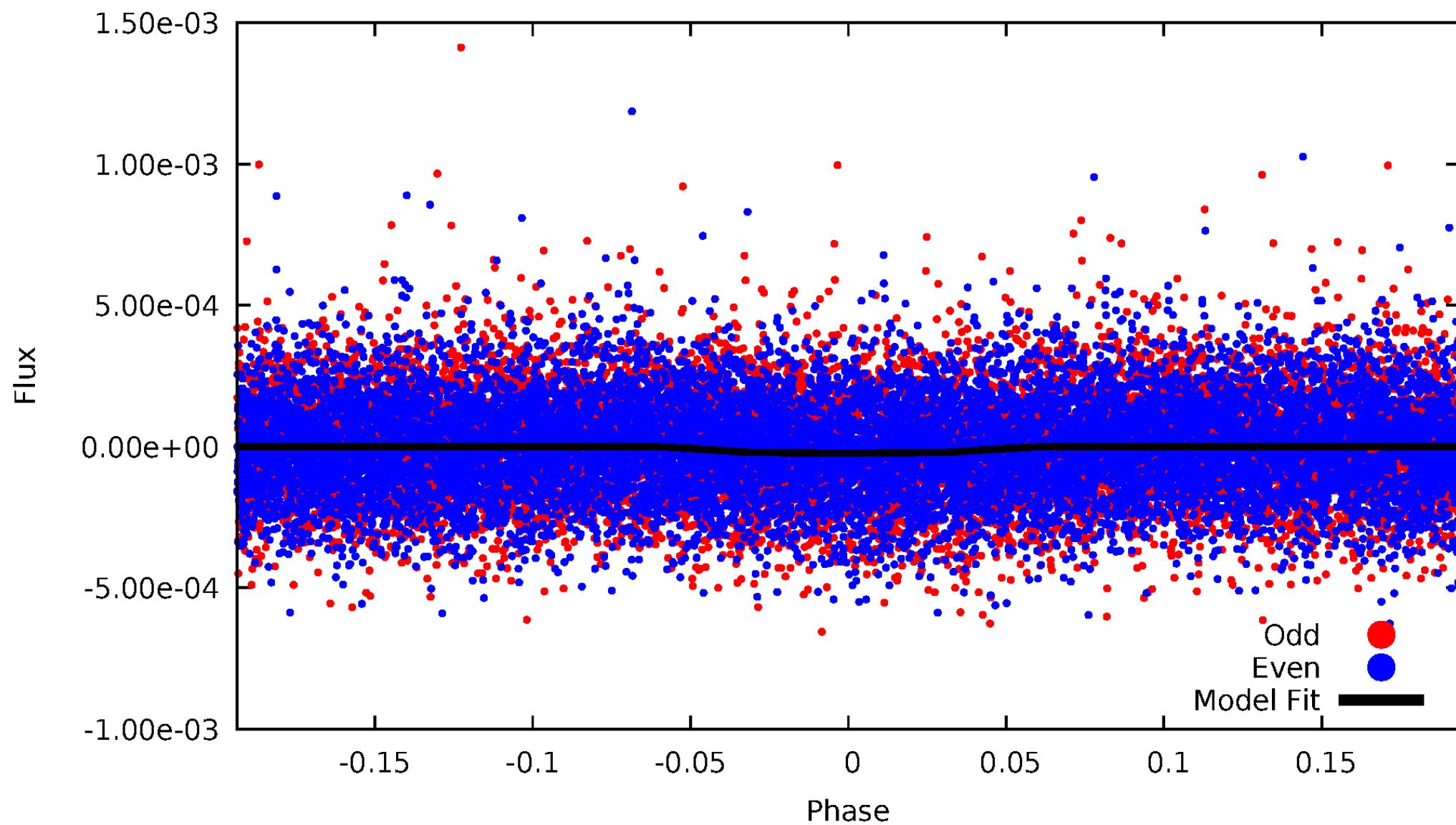


TCE 001866252-01



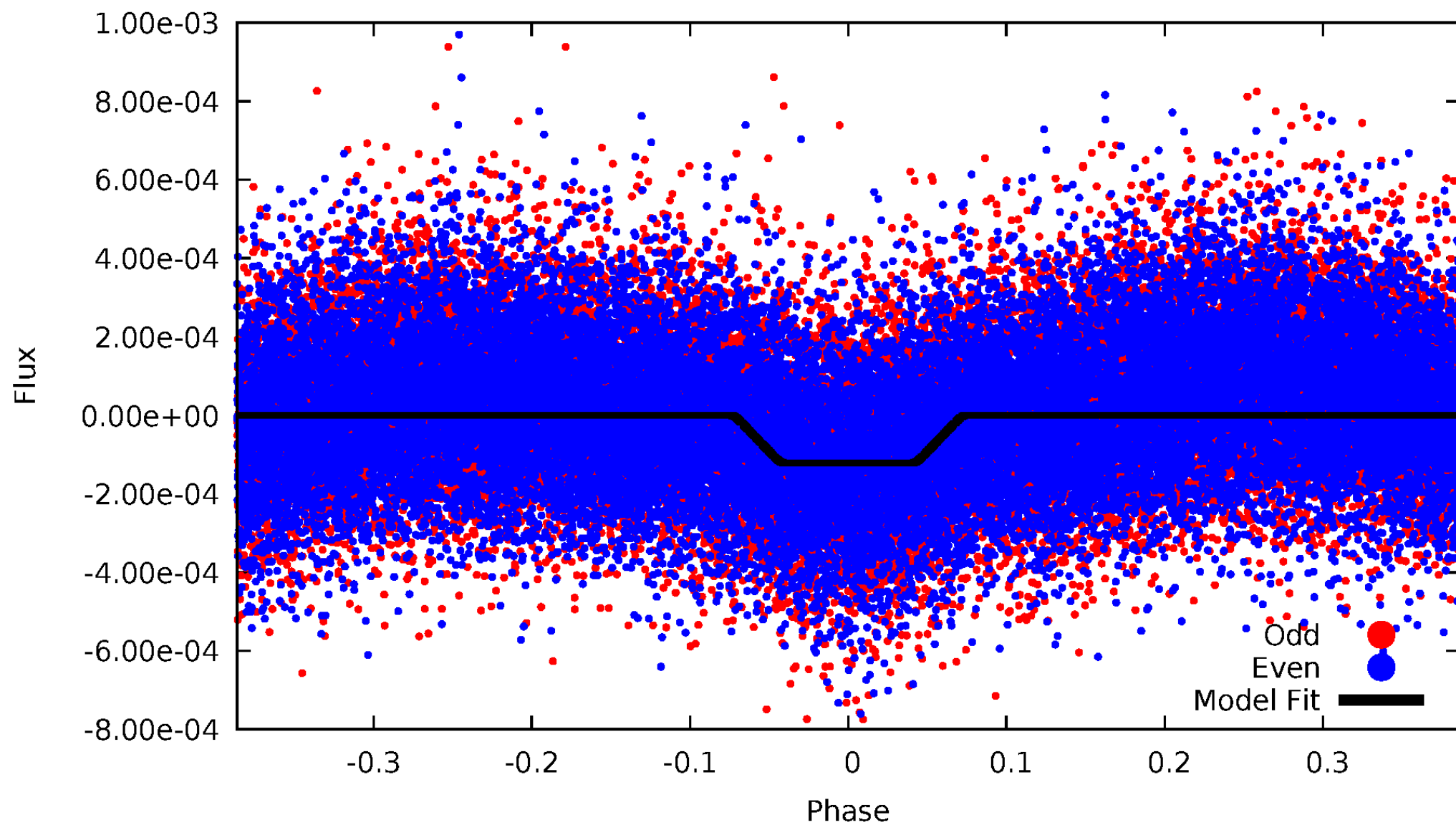
# DV Odd/Even

TCE 001866252-01



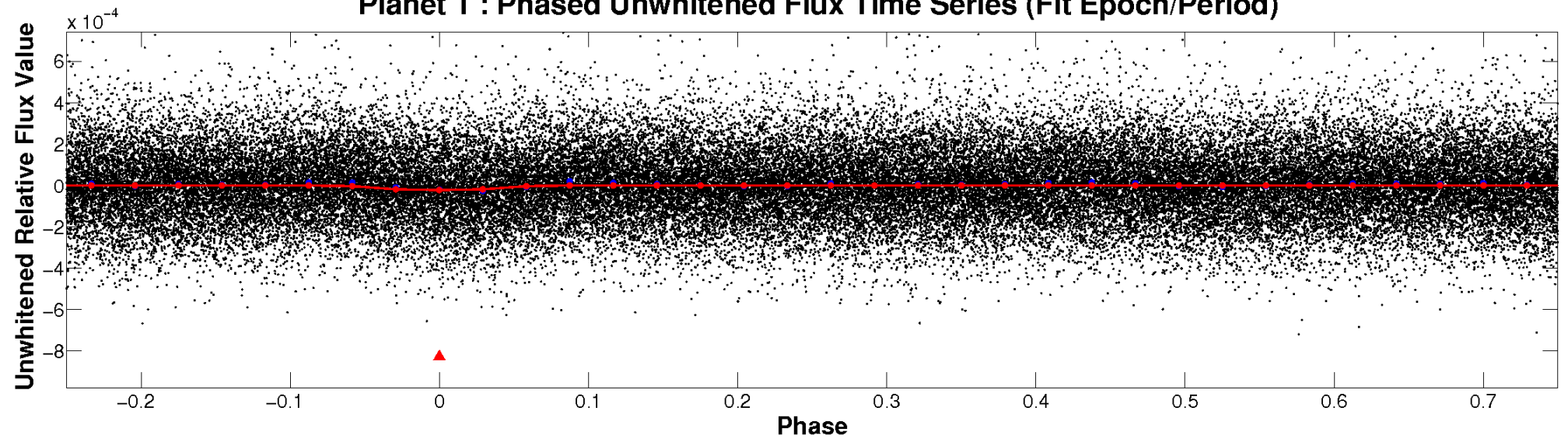
# ALT Odd/Even

TCE 001866252-01

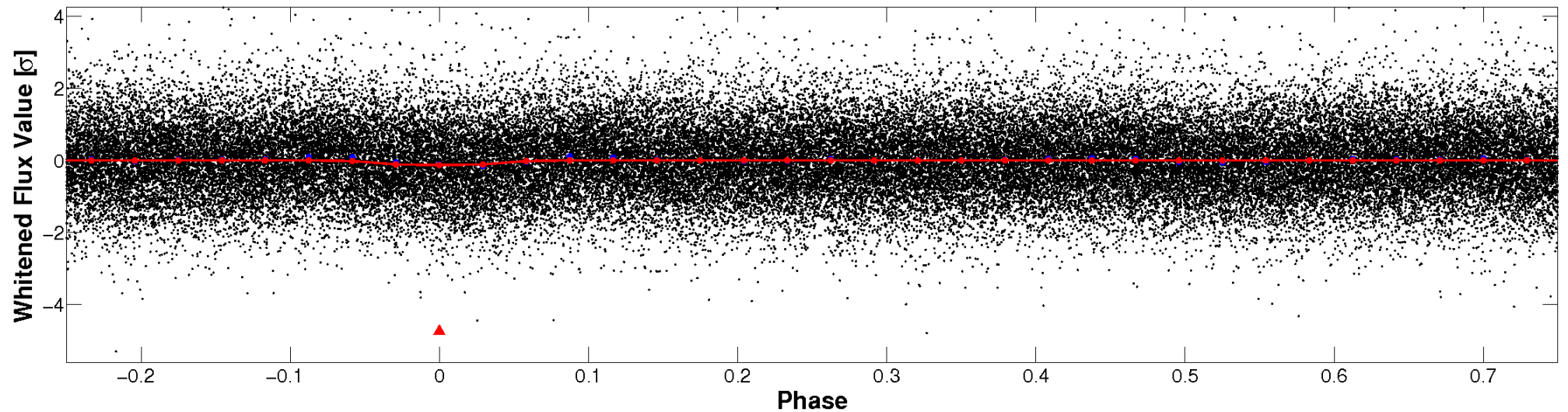


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**



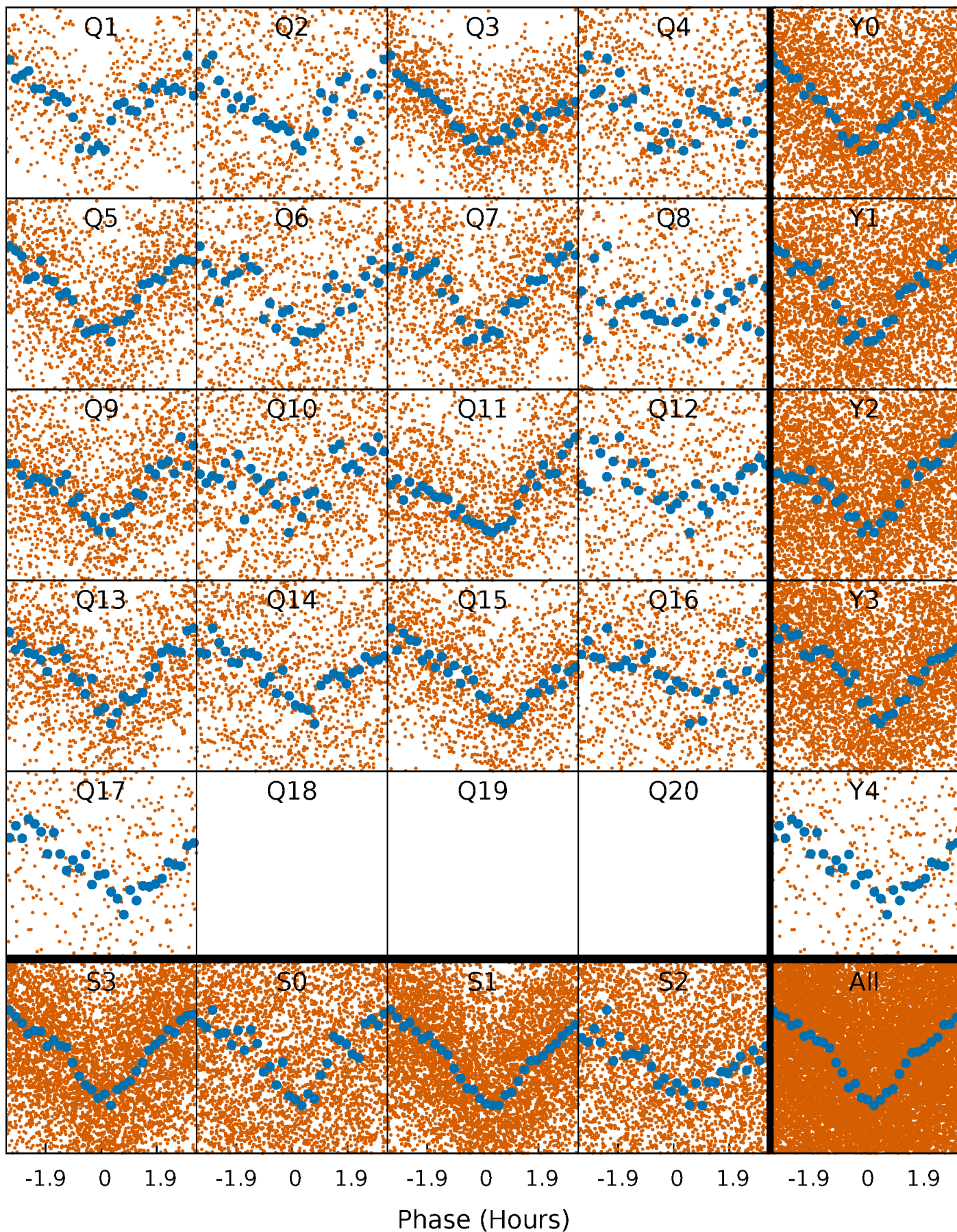
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

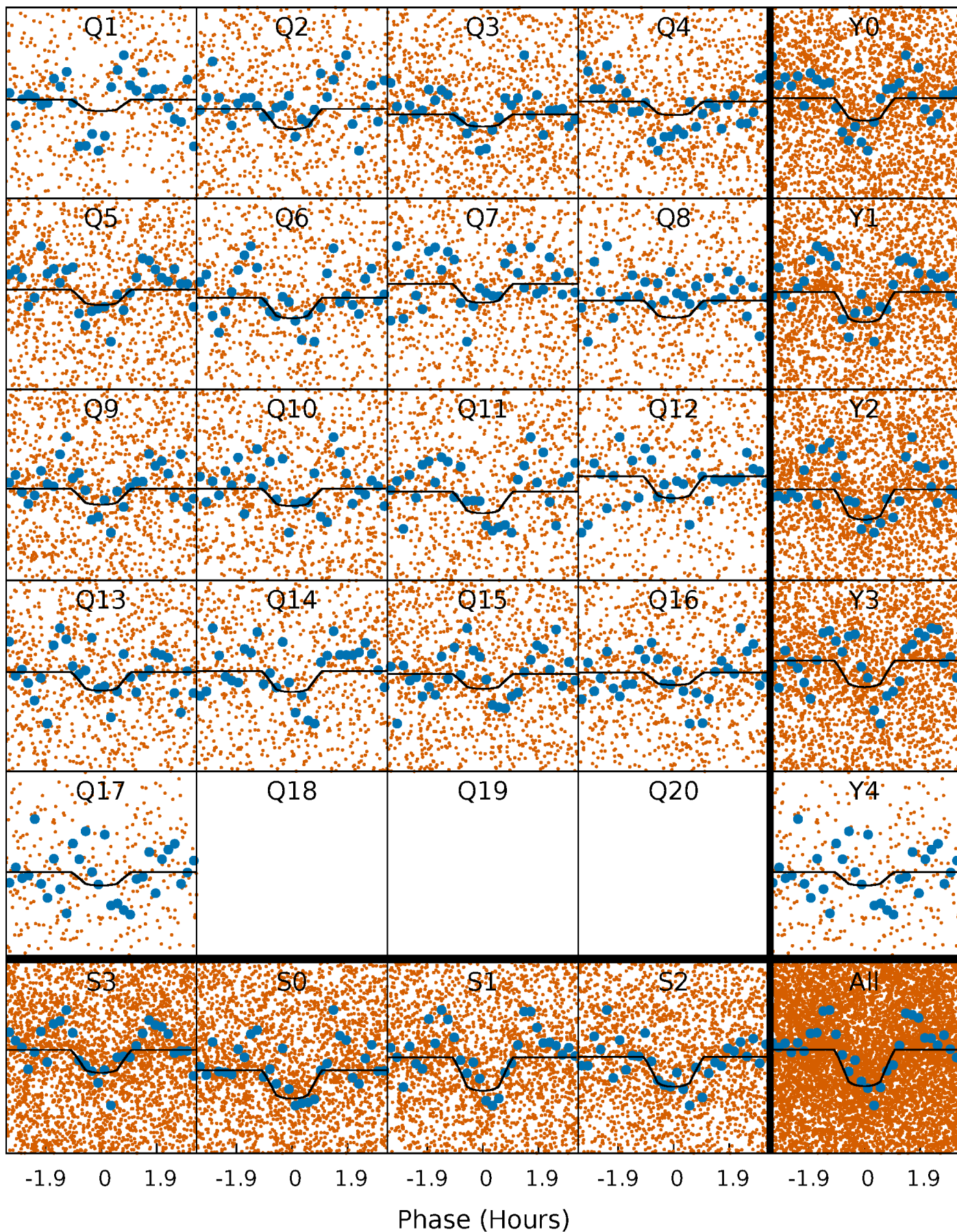
TCE 001866252-01 P= 0.700486 Days  $T_0=132.163682$  (BKJD)





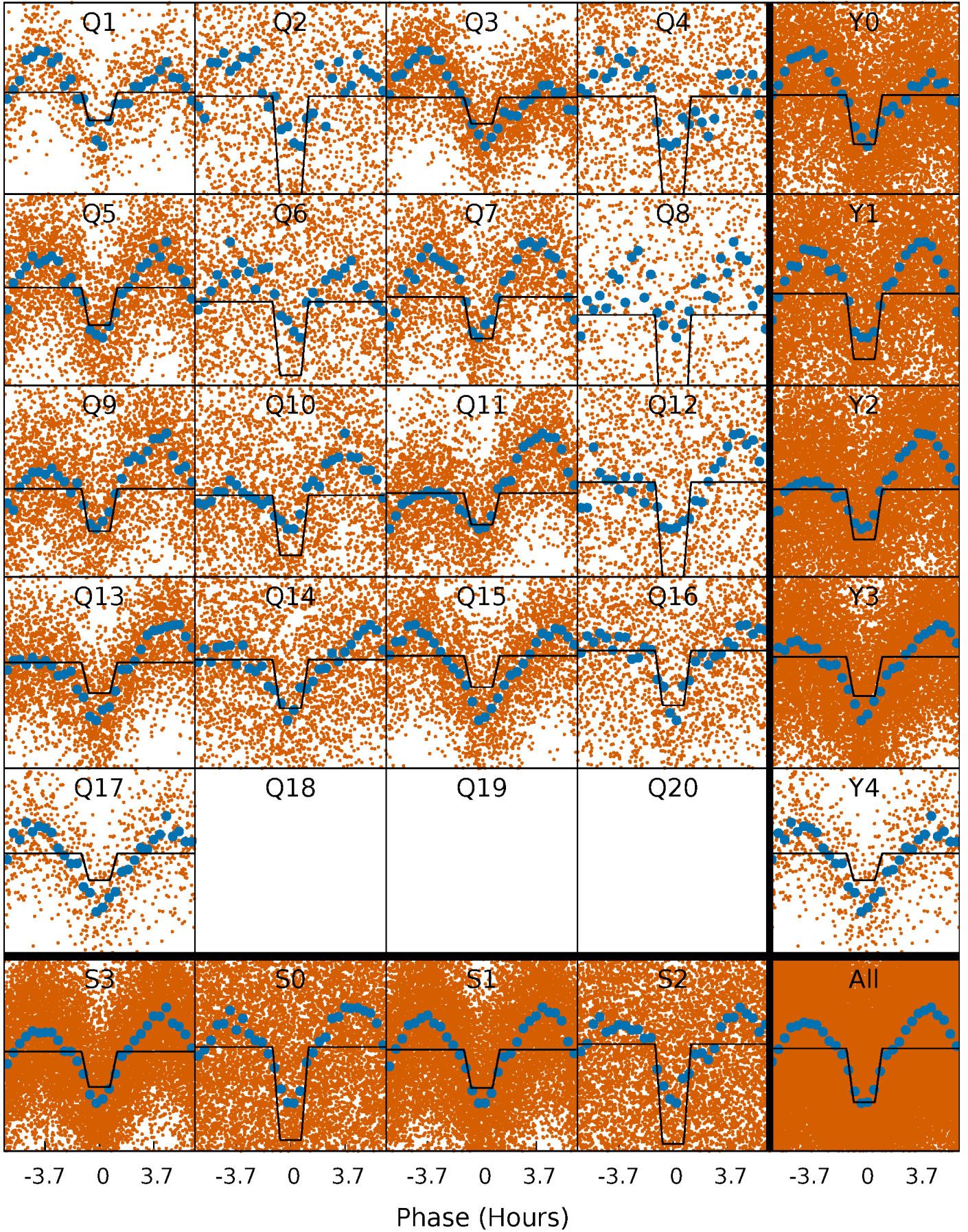
# DV Quarter-Phased Transit Curves

TCE 001866252-01 P= 0.700486 Days  $T_0=132.163682$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 001866252-01 P= 0.700510 Days  $T_0=132.149842$  (BKJD)

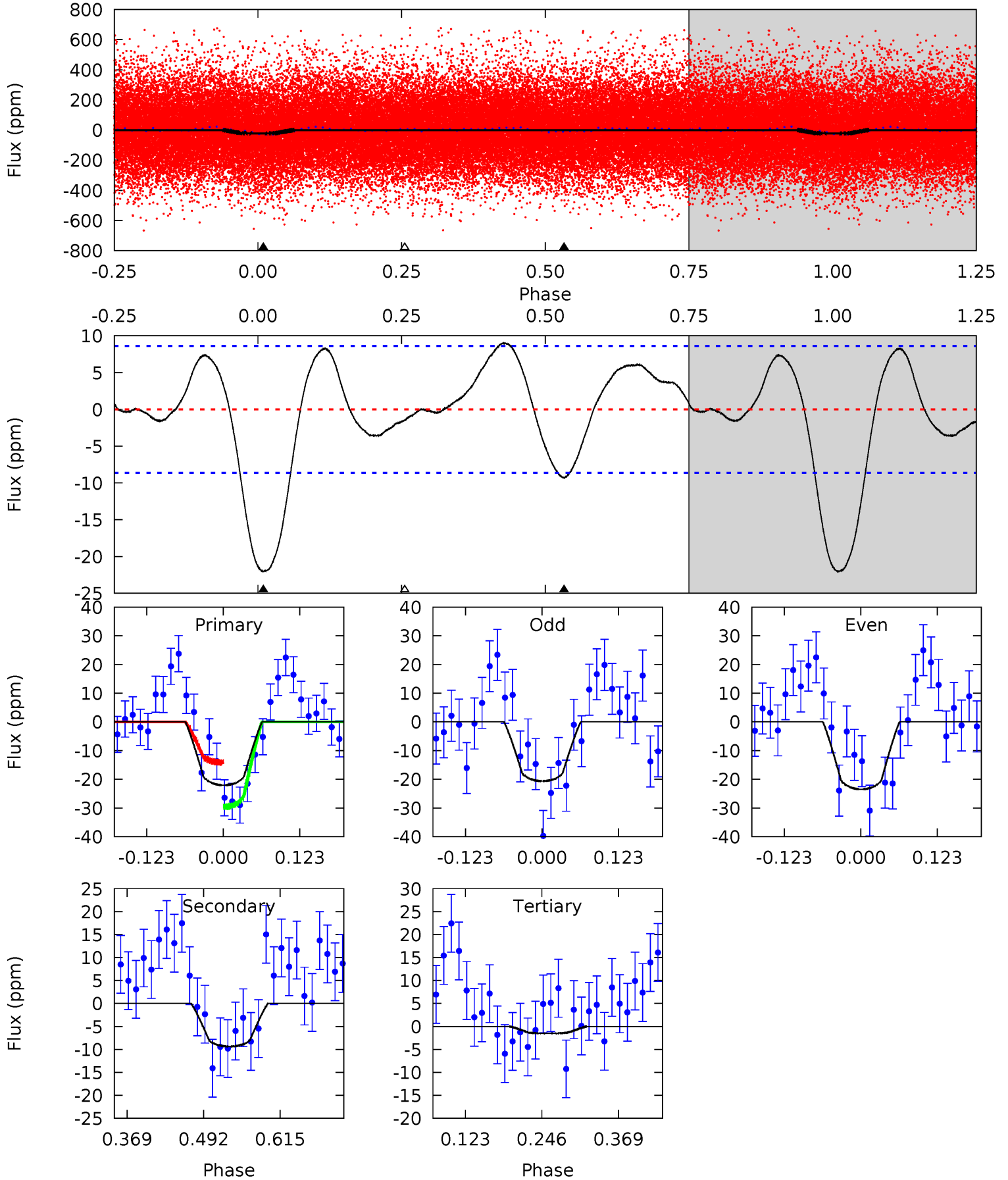




# DV Model-Shift Uniqueness Test

001866252-01, P = 0.700486 Days, E = 131.463196 Days

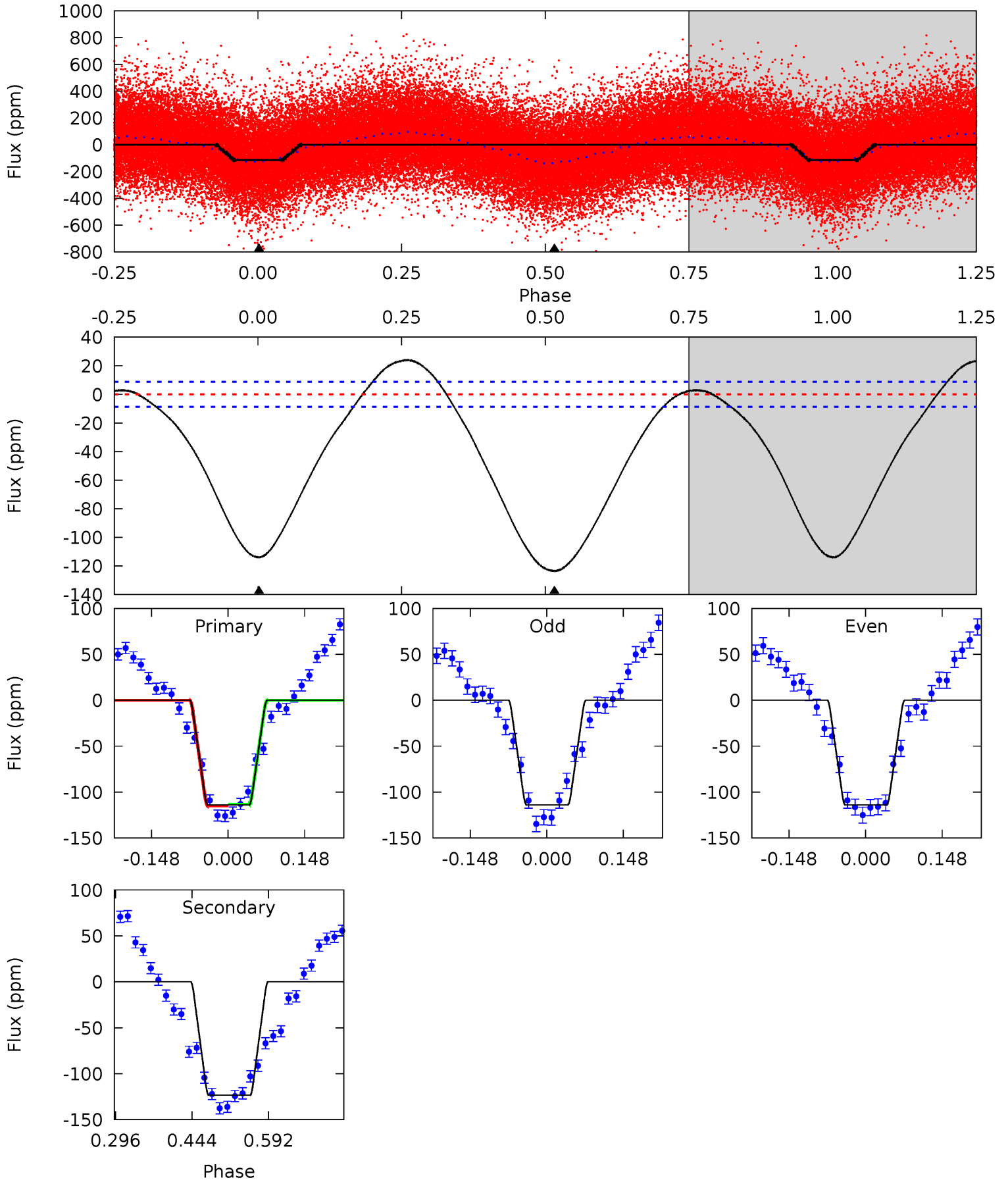
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	4.91	0.80	0	4.52	1.54	1.47	10.8	11.6	4.11	4.91	0.75	0.95	0.29	4.06



# Alt Model-Shift Uniqueness Test

001866252-01, P = 0.700510 Days, E = 131.449332 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.7	63.6	0	0	4.48	1.45	7.27	58.7	58.7	63.6	63.6	0.05	1.04	0.16	0.48





### Stellar Parameters For KIC 001866252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6102^{+165}_{-202}$	$4.276^{+0.162}_{-0.198}$	$-0.120^{+0.250}_{-0.300}$	$1.225^{+0.368}_{-0.245}$	$1.033^{+0.166}_{-0.120}$	$0.792^{+0.637}_{-0.411}$
	+3%/-3%	+4%/-5%	+208%/-250%	+30%/-20%	+16%/-12%	+80%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 001866252-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-9 \pm 2$	$0.71^{+0.26}_{-0.23}$	$3340^{+272}_{-224}$	$4688^{+918}_{-610}$	$2.541^{+3.111}_{-1.211}$
Alt.	$-123 \pm 2$	$1.48^{+0.36}_{-0.28}$	$3340^{+276}_{-220}$	$6068^{+554}_{-467}$	$7.628^{+3.731}_{-2.657}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

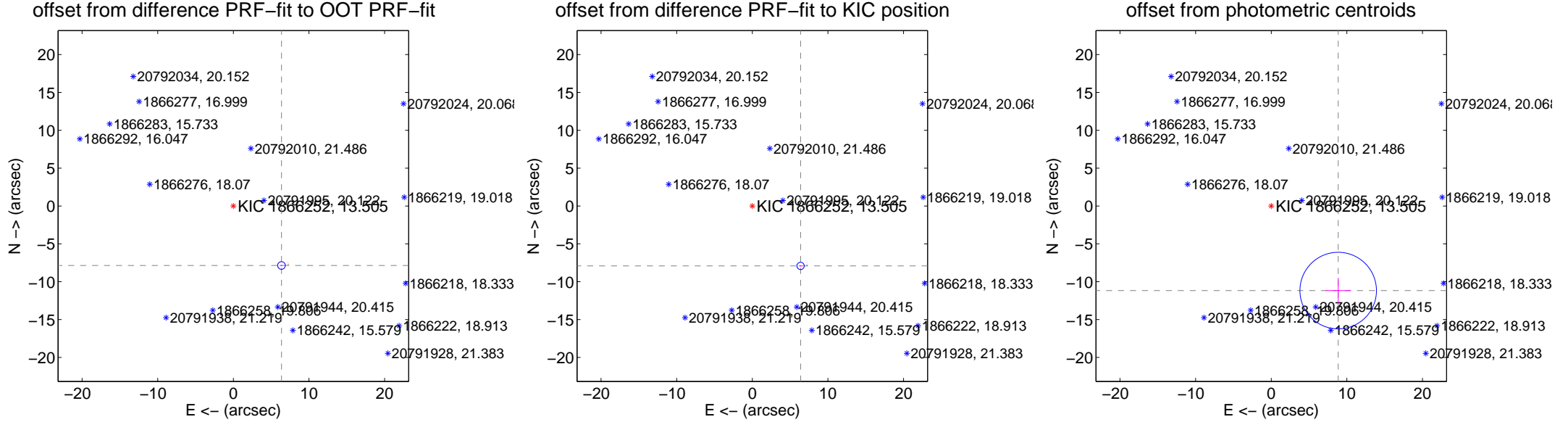
## DV Centroid Data

Supplemental centroid analysis for 001866252-01. Kepler magnitude: 13.51. Transit SNR 8.39

There are 7 quarters with good PRF difference image offsets

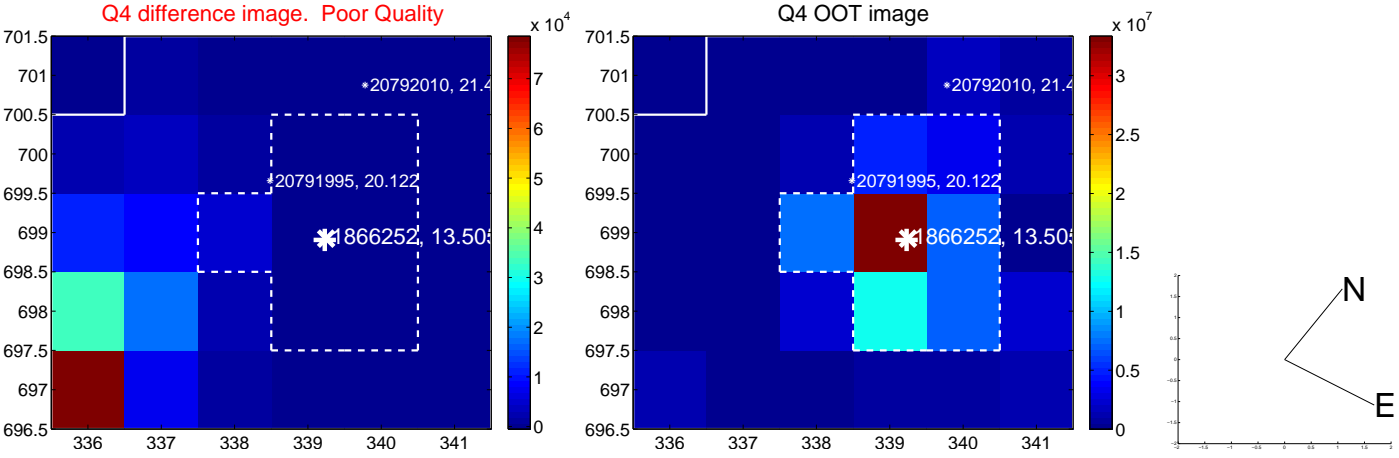
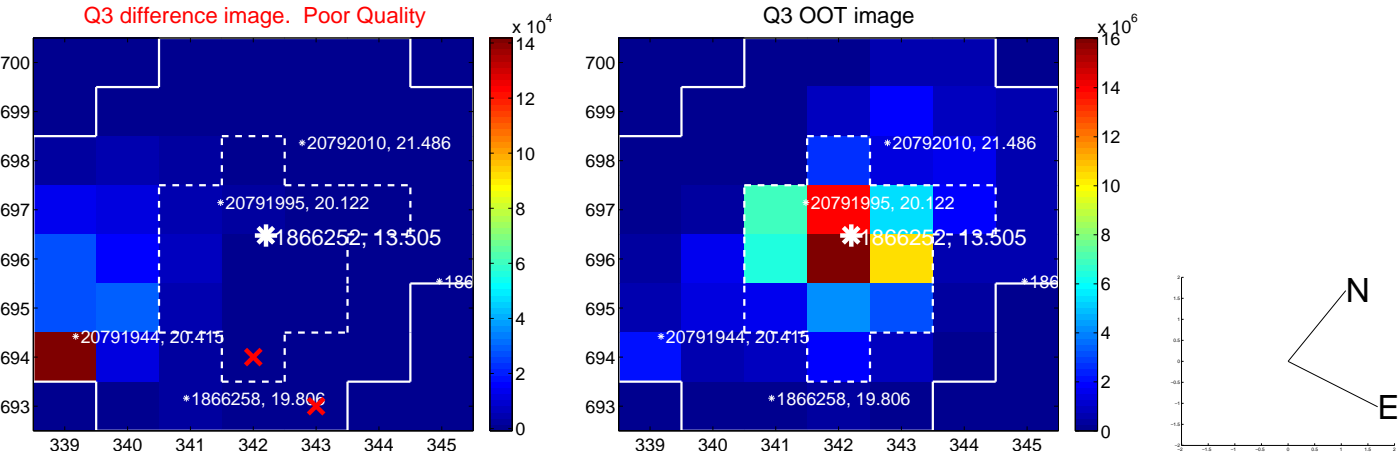
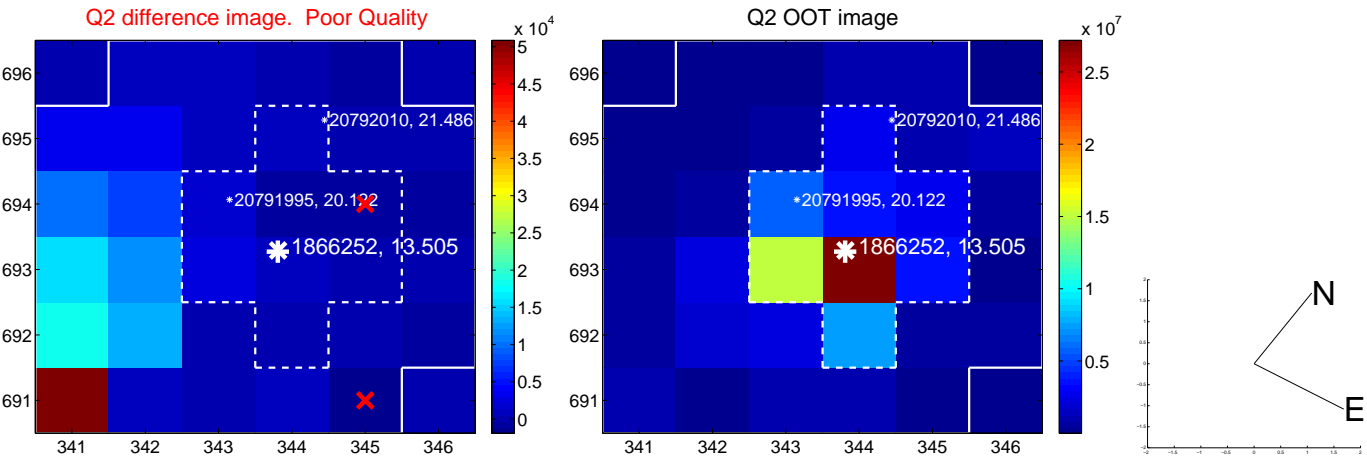
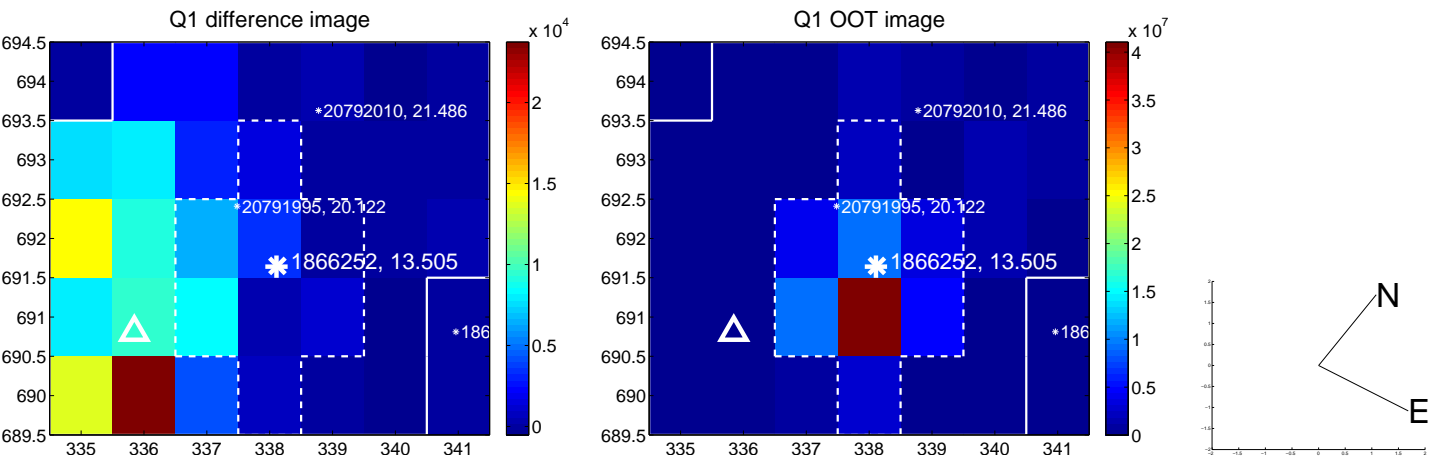
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$10.109 \pm 0.169$	59.90	$-6.362 \pm 0.243$	$-7.856 \pm 0.092$
PRF-fit source offset from KIC position	$10.166 \pm 0.161$	63.09	$-6.383 \pm 0.234$	$-7.913 \pm 0.086$
photometric centroid source offset	$14.25 \pm 1.69$	8.45	$-8.85 \pm 1.68$	$-11.17 \pm 1.69$

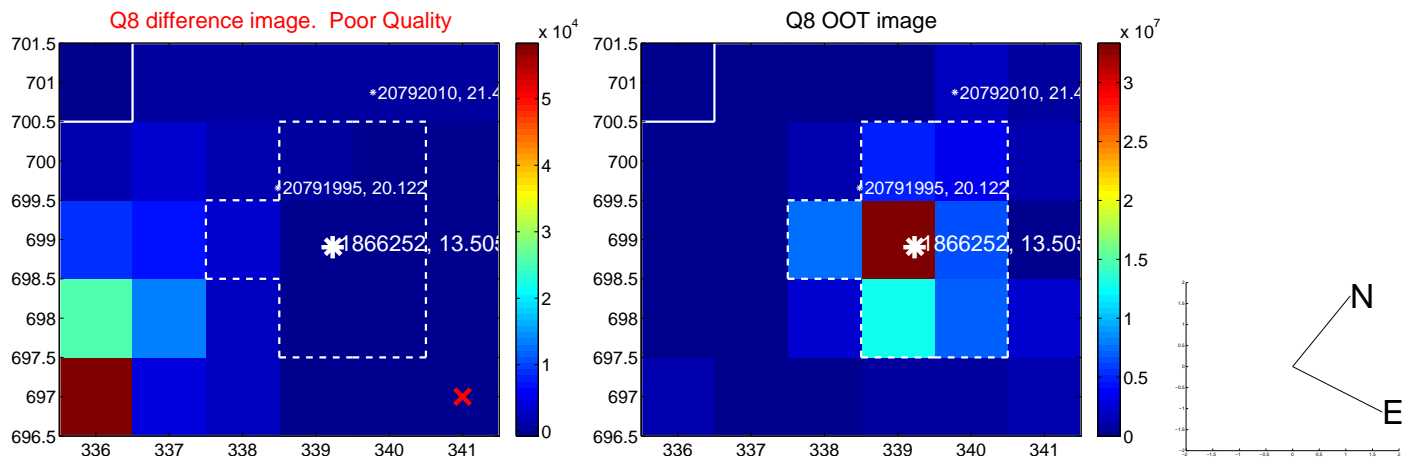
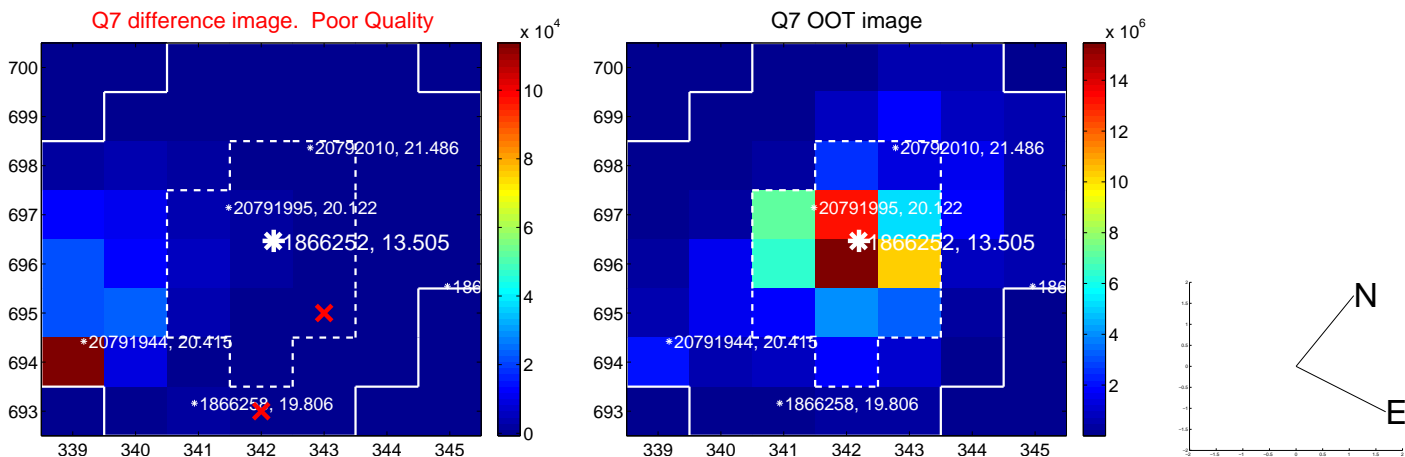
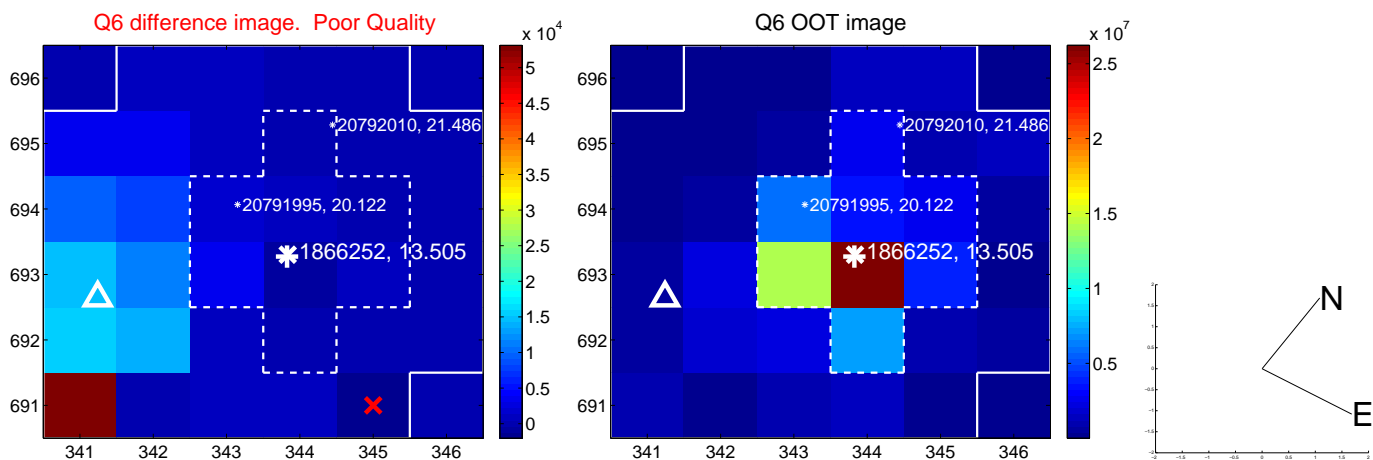
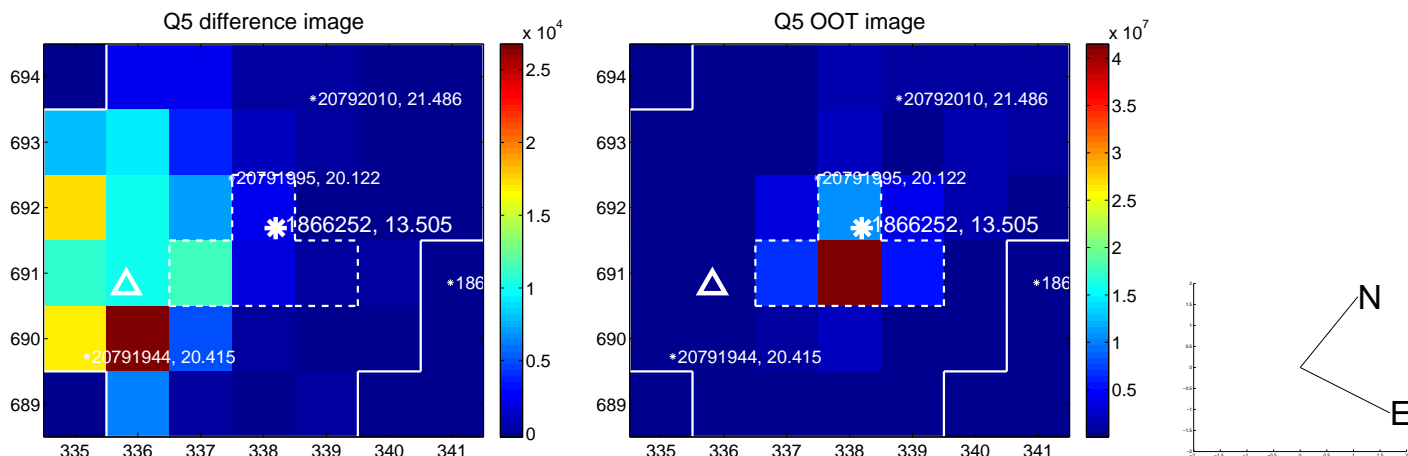


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

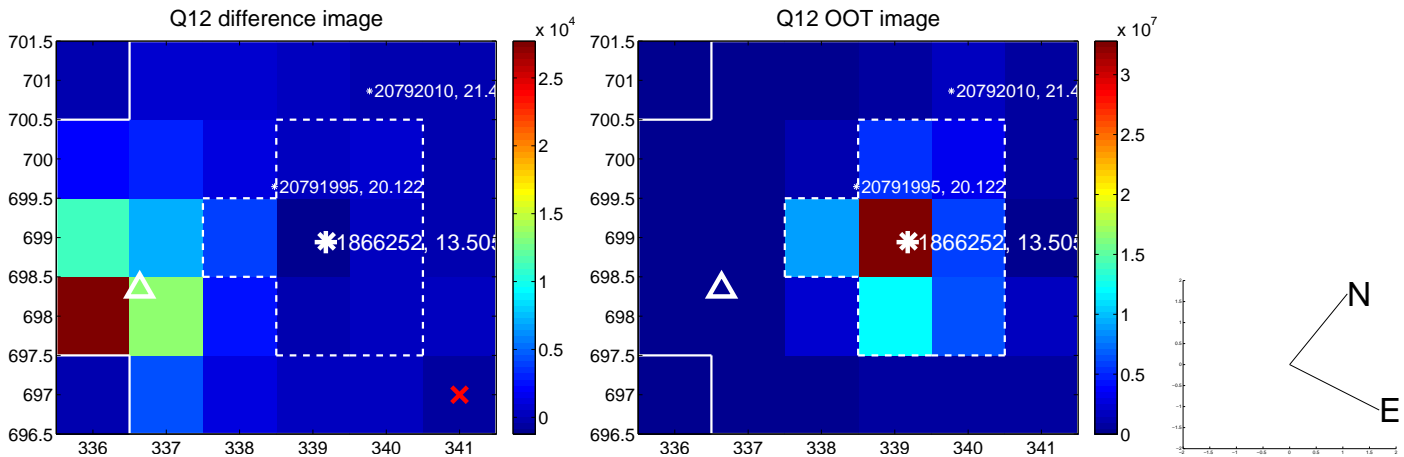
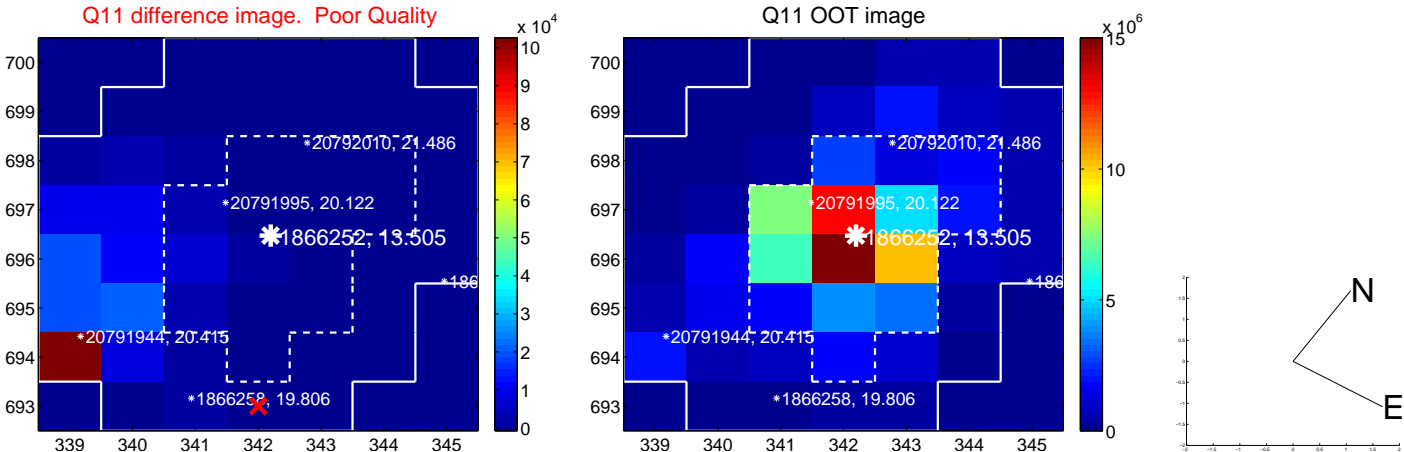
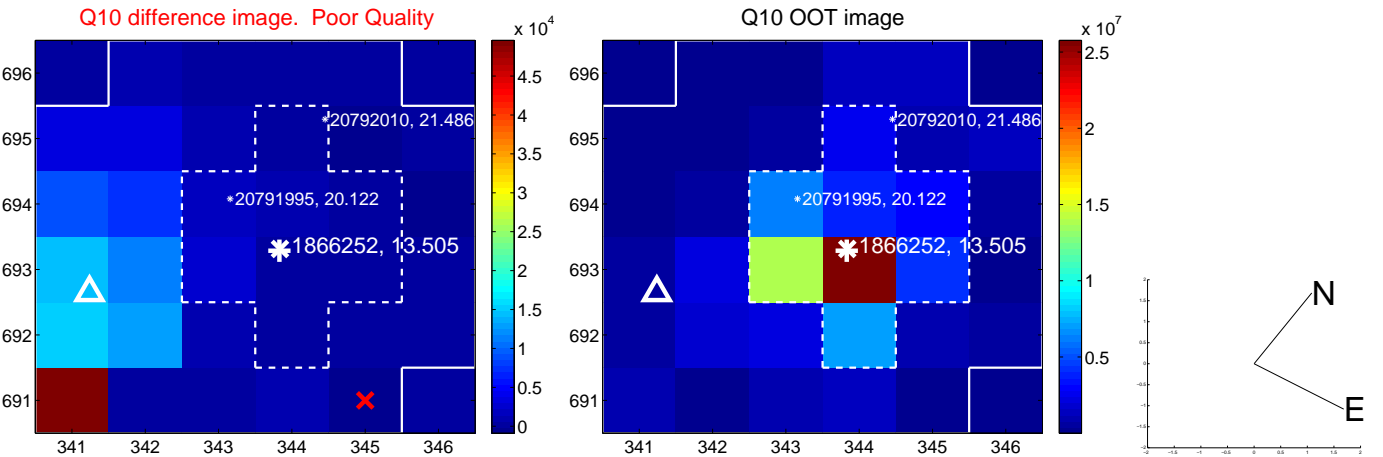
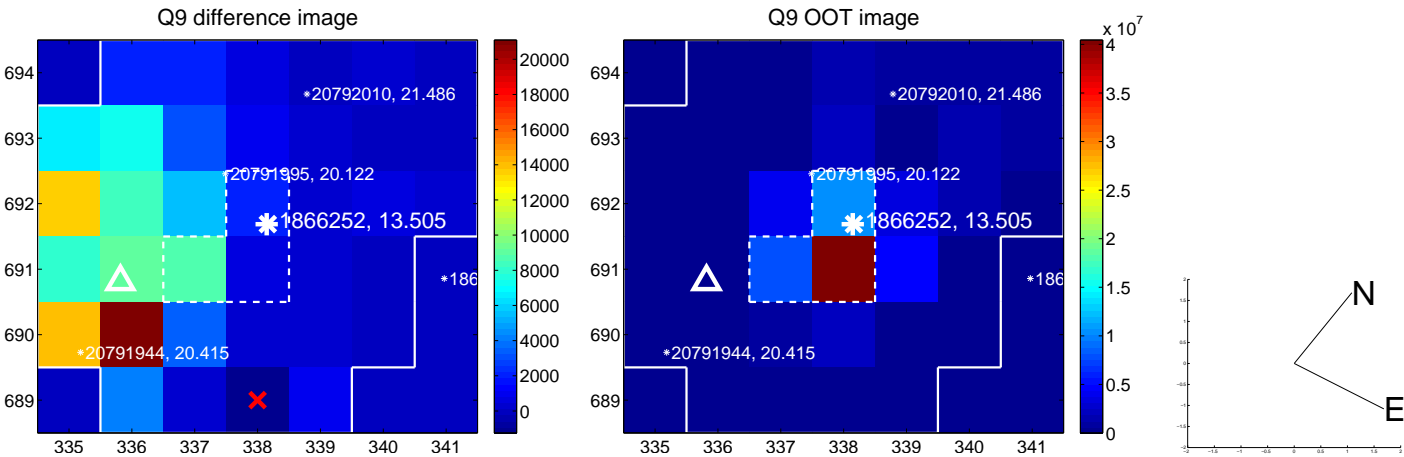


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

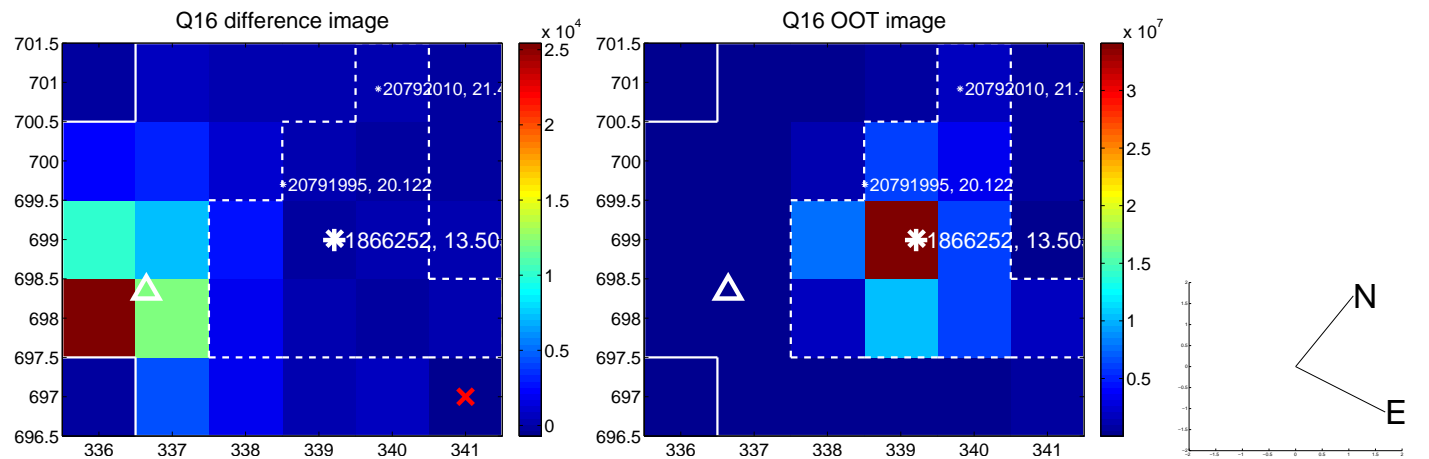
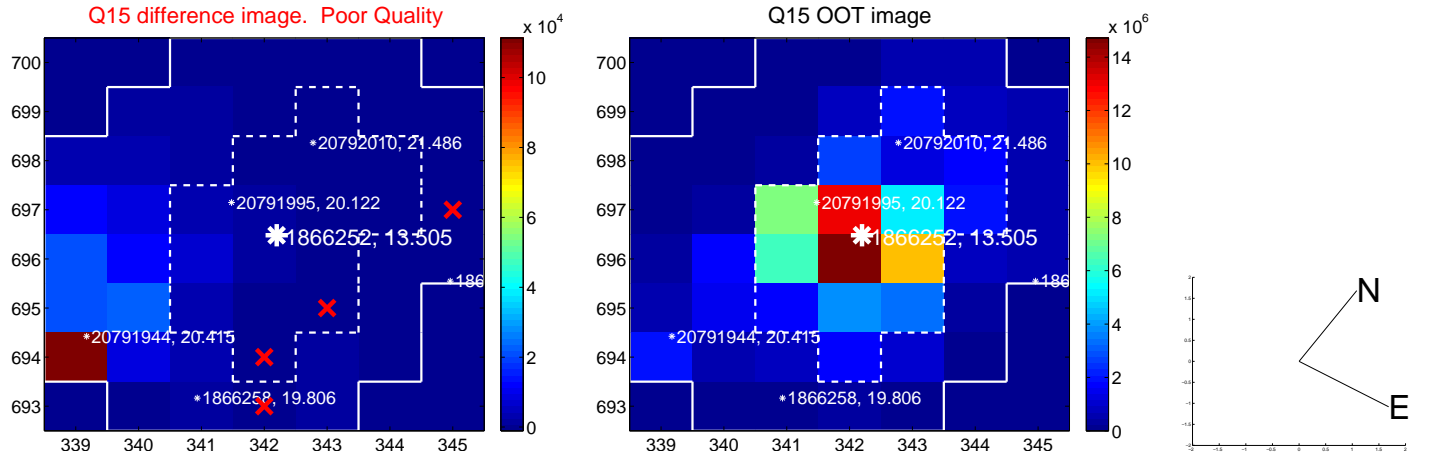
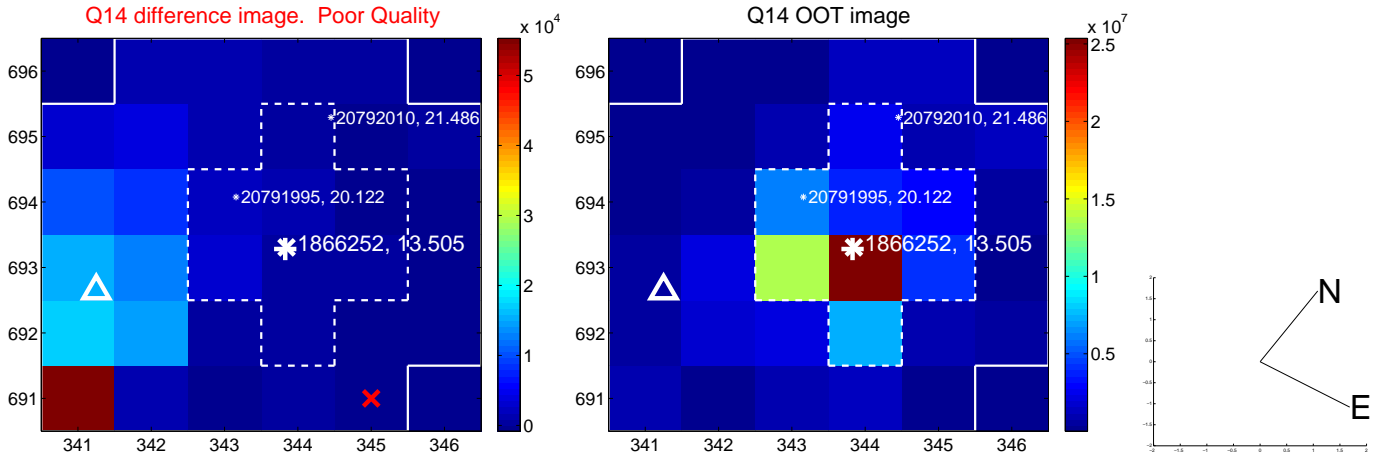
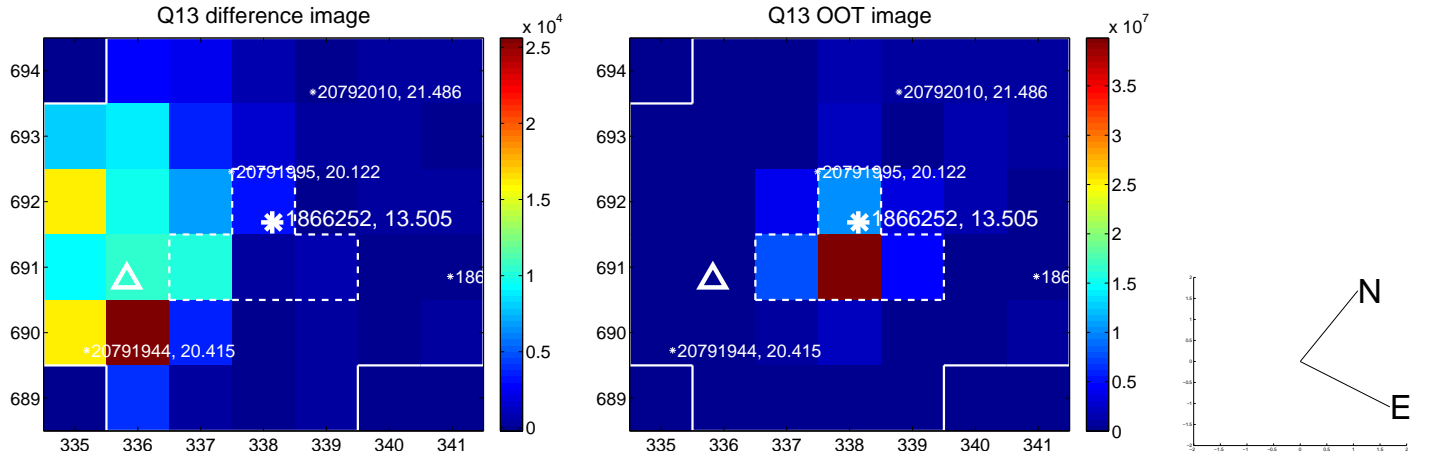




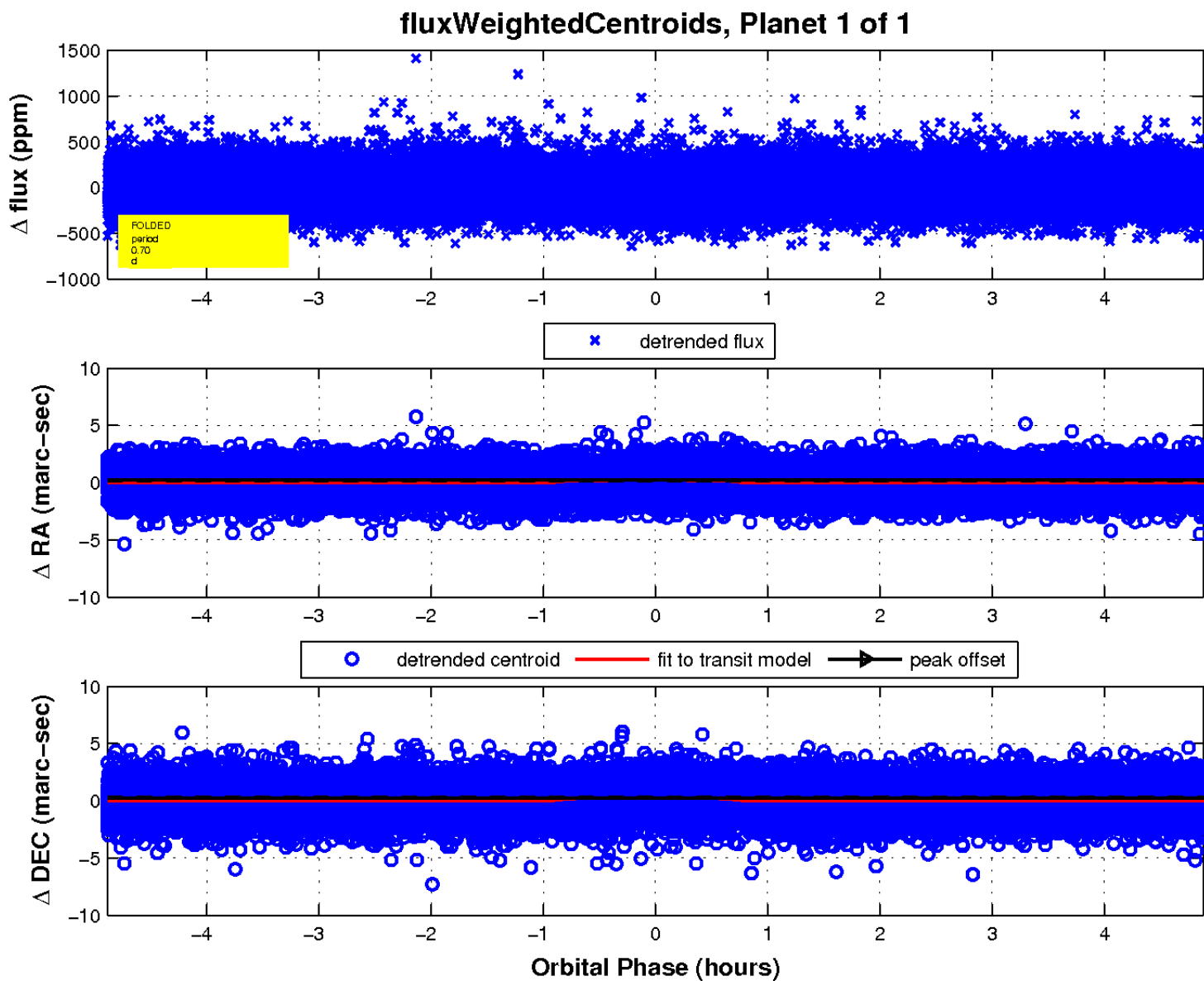
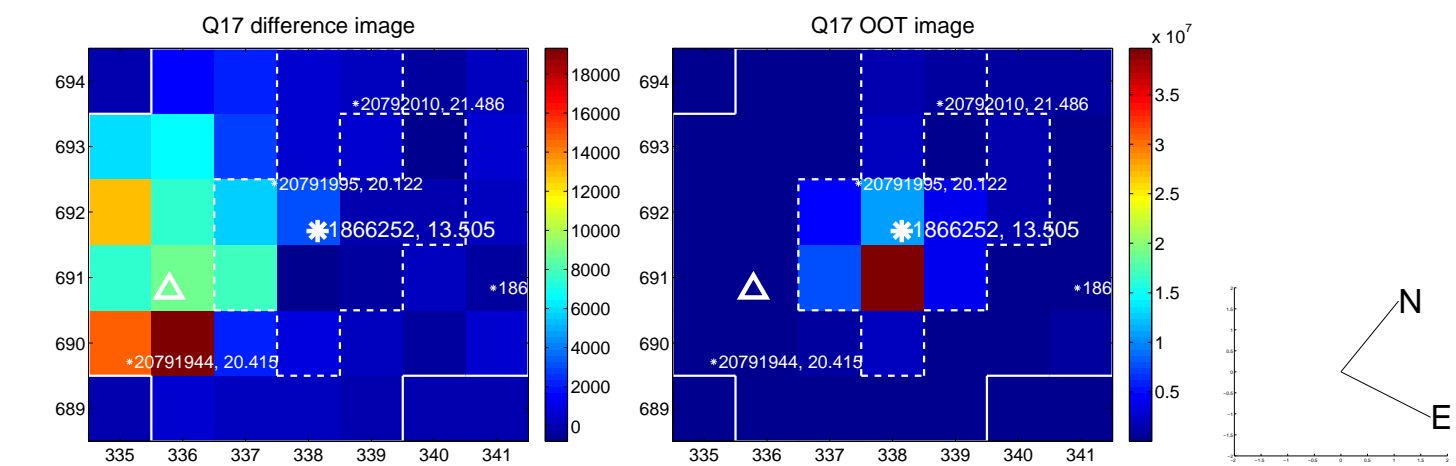
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

